

WHAT WE CLAIM IS:

1. A screen motion image quality measuring/evaluating apparatus for measuring and evaluating, based on the movement of a test pattern displayed on the screen of a display device
5 to be evaluated, the quality of a motion image on the screen,

the apparatus comprising: a rotatable mirror; an image sensor for capturing the screen through the mirror; a rotational driving unit for rotationally driving the mirror; a control unit connected to the rotational driving unit; and an image processing
10 unit,

the control unit being arranged such that when it is detected based on a change in the luminance of a detection screen of the image sensor that the test pattern displayed on the screen has passed a predetermined position on the screen, a rotational
15 driving signal is supplied to the rotational driving unit such that the mirror starts rotating as keeping pace with the movement of the test pattern.

2. A screen motion image quality measuring/evaluating
20 apparatus according to Claim 1, wherein the control unit is arranged such that after the test pattern displayed on the screen has started moving, the screen is captured more than once by the image sensor, and that based on the images thus captured more than once, it is detected whether or not the test pattern
25 has passed a predetermined position of the screen.

3. A screen motion image quality measuring/evaluating apparatus according to Claim 1, wherein

the test pattern repeatedly appears on the screen and moves
5 in the same direction at the same velocity,

the control unit is arranged to observe the image of the test pattern appearing on the detection screen of the image sensor during the rotation of the mirror, and to determine the mirror rotational velocity at which the image stands still, and

10 the rotational driving signal supplied to the rotational driving unit comprises information instructing that the mirror rotates at the rotational velocity thus determined.

4. A screen motion image quality measuring/evaluating
15 apparatus according to Claim 1, wherein

the test pattern repeatedly appears on the screen and moves in the same direction at the same velocity,

the control unit is arranged to observe a test pattern blurred edge width which appears, along the scanning direction,
20 on the detection screen of the image sensor during the rotation of the mirror, and to determine the mirror rotational velocity at which the blurred edge width is minimized, and

the rotational driving signal supplied to the rotational driving unit comprises information instructing that the mirror
25 rotates at the rotational velocity thus determined.

5. A screen motion image quality measuring/evaluating apparatus according to Claim 4, wherein the image processing unit is arranged to evaluate the quality of a motion image on the screen with the use of the minimized blurred edge width.

6. A screen motion image quality measuring/evaluating apparatus according to Claim 1, wherein

the test pattern repeatedly appears on the screen and moves in the same direction at the same velocity,

the control unit is arranged to calculate the moving velocity of the test pattern based on the movement of the test pattern appearing on the detection screen of the image sensor while the mirror is fixed, and to determine the mirror rotational velocity based on the test pattern moving velocity thus calculated, and

the rotational driving signal supplied to the rotational driving unit comprises information instructing that the mirror rotates at the rotational velocity thus determined.

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7. A screen motion image quality measuring/evaluating apparatus according to any of Claims 1 to 6, comprising a rotatable camera and a rotational driving unit for rotationally driving the camera, instead of: the rotatable mirror; the image sensor for capturing the screen through the mirror; and the rotational

driving unit for rotationally driving the mirror.

8. A screen motion image quality measuring/evaluating apparatus for measuring and evaluating, based on the movement
5 of a test pattern displayed on the screen of a display device to be evaluated, the quality of a motion image on the screen,

the apparatus comprising: a rotatable mirror; an image sensor for capturing the screen through the mirror; a rotational driving unit for rotationally driving the mirror; a control unit
10 connected to the rotational driving unit; and an image processing unit,

the test pattern repeatedly appearing on the screen and moving in the same direction at the same velocity, and

the control unit being arranged to observe the image of
15 the test pattern appearing on the detection screen of the image sensor during the rotation of the mirror, to determine the mirror rotational velocity at which the image stands still, and to rotationally drive the mirror at the rotational velocity thus determined.

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9. A screen motion image quality measuring/evaluating apparatus for measuring and evaluating, based on the movement of a test pattern displayed on the screen of a display device to be evaluated, the quality of a motion image on the screen,

25 the apparatus comprising: a rotatable mirror; an image

sensor for capturing the screen through the mirror; a rotational driving unit for rotationally driving the mirror; a control unit connected to the rotational driving unit; and an image processing unit,

5 the test pattern repeatedly appearing on the screen and moving in the same direction at the same velocity, and

 the control unit being arranged to observe a test pattern blurred edge width which appears, along the scanning direction, on the detection screen of the image sensor during the rotation
10 of the mirror, to determine the mirror rotational velocity at which the blurred edge width is minimized, and to rotationally drive the mirror at the rotational velocity thus determined.

10. A screen motion image quality measuring/evaluating
15 apparatus according to Claim 9, wherein the image processing unit is arranged to evaluate the quality of a motion image on the screen with the use of the minimized blurred edge width.

11. A screen motion image quality measuring/evaluating
20 apparatus according to any of Claims 8 to 10, comprising a rotatable camera and a rotational driving unit for rotationally driving the camera, instead of: the rotatable mirror; the image sensor for capturing the screen through the mirror; and the rotational driving unit for rotationally driving the mirror.

12. A screen motion image quality measuring/evaluating method of measuring and evaluating, based on the movement of a test pattern displayed on the screen of a display device to be evaluated, the quality of a motion image on the screen, the
5 method comprising the steps of:

(1) capturing an image of the test pattern while the test pattern is moved on the screen at a predetermined velocity and while the visual field of an image sensor is moved on the screen;
and

10 (2) determining the moving velocity of the image sensor visual field at which the test pattern image position stands still, and evaluating the quality of a motion image on the screen based on the test pattern image captured at the velocity thus predetermined.

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13. A screen motion image quality measuring/evaluating method of measuring and evaluating, based on the movement of a test pattern displayed on the screen of a display device to be evaluated, the quality of a motion image on the screen, the
20 method comprising the steps of:

(1) capturing an image of the test pattern while the test pattern is moved on the screen at a predetermined velocity and while the visual field of an image sensor is moved on the screen;

(2) observing a blurred edge width appearing, along the
25 scanning direction, on the test pattern image thus captured;

and

(3) determining the moving velocity of the image sensor visual field at which the blurred edge width is minimized, and evaluating the quality of a motion image on the screen based
5 on the image of the test pattern captured at the velocity thus predetermined.

14. A screen motion image quality measuring/evaluating apparatus for measuring and evaluating, based on the movement
10 of a test pattern displayed on the screen of a display device to be evaluated, the quality of a motion image on the screen,

the apparatus comprising: a rotatable mirror; an image sensor for capturing the screen through the mirror; a rotational driving unit for rotationally driving the mirror; a control unit
15 connected to the rotational driving unit; and an image processing unit,

the test pattern repeatedly appearing on the screen and moving in the same direction at the same velocity, and

the control unit being arranged to calculate the moving
20 velocity of the test pattern based on the movement of the test pattern appearing on the detection screen of the image sensor while the mirror is fixed, to determine the mirror rotational velocity based on the test pattern moving velocity thus calculated, and to rotationally drive the mirror at the
25 rotational velocity thus determined.

15. A screen motion image quality measuring/evaluating apparatus according to Claim 14, comprising a rotatable camera and a rotational driving unit for rotationally driving the camera, instead of: the rotatable mirror; the image sensor for capturing the screen through the mirror; and the rotational driving unit for rotationally driving the mirror.

16. A screen motion image quality measuring/evaluating method of measuring and evaluating, based on the movement of a test pattern displayed on the screen of a display device to be evaluated, the quality of a motion image on the screen, the method comprising the steps of:

(1) capturing an image of the test pattern more than once while the test pattern is moved on the screen at a predetermined velocity and while the visual field of an image sensor is fixed on the screen;

(2) observing the moving velocity, on the detection screen, of the test pattern image thus captured; and

(3) calculating and determining the moving velocity of the image sensor visual field corresponding to the moving velocity of the test pattern image on the detection screen, and evaluating the quality of a motion image on the screen based on the image of the test pattern captured at the velocity thus determined.